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SECTOR **3** — CHART INFORMATION

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SECTOR 3

EAST COAST OF KAMCHATKA—KAMCHATSKIY ZALIV TO MYS LOPATKA

Plan.—The coast described in this sector comprises the E coast of Kamchatka from Poluostrov Kamchatskiy to Mys Lopatka, including Pervyy Kuril'skiy Proliv (Kuril Strait). The arrangement of the sector is from N to S.

General Remarks

3.1 Winds—Weather.—In Kamchatskiy Zaliv winds from the SW quadrant prevail in summer and are accompanied by clear weather. Northeast winds bring foul weather. Gales are most frequent between October and March. In winter the winds are predominantly between the NW and NE, and when from the latter direction are frequently accompanied by blizzards.

The presence, during clear weather, of a light misty cloud enveloping the summit of the volcano of Shivelyuch is considered locally as a sign of approaching E, and particularly NE winds.

It appears that off the E side of the peninsula the colder, deeper water comes, or is forced, to the surface, a phenomenon ascribed to the effect of tidal currents, causing fog to form quickly over the sea. In calms, or with gentle onshore breezes, a dense protracted fog blankets the coast.

Ice.—Kamchatskiy Zaliv generally does not freeze completely, however by the end of December or early January, it is more or less filled with loose floes. In February the gulf is solidly packed with hummocky ice. During the month of March, the gulf ordinarily is free from ice, but beginning in April and until the middle of May the gulf is packed with heavy masses of hummocky ice carried in from the N part of the Bering Sea. It should be noted that the part of the coast between the Osyp' Lakhtak and Mys Kamchatskiy is often free of ice, while the remaining part of the gulf is solidly packed with ice. The earliest recorded appearance of ice is November 15; the latest is January 16.

Drift ice is usually adrift in Kronotskiy Zaliv in the winter. The average number of days with ice is 152. The earliest recorded appearance of ice is December 6, the latest January 5.

Drift ice generally moves SW in March in the open sea off Mys Mayachnyy and the sea is free of ice early in April. Navigation may be seriously impeded during winter and spring in the open sea off Mys Mayachnyy, but icebreakers can generally keep a passage open.

Tides—Currents.—Between Mys Kamchatskiy, Mys Kronotskiy and Mys Shipunskiy the stream of the constant Kamchatka current is 40 to 50 miles wide, and flowing in a general SSW direction, has a velocity of 0.6 knot.

Between Mys Shipunskiy, the entrance to the Avachinskaya Guba, and Mys Lopatka the main stream of the Kamchatka current flows in a general SSW direction and has a velocity of 0.7 to 0.9 knot.

Southward of Mys Shipunskiy, a narrow branch of the main Kamchatka current flows in the direction of Mys Nalycheva, with a velocity of 0.5 knot then flows S, then SW and joins the main stream of the Kamchatka current.

Tides in Kamchatskiy Zaliv are of a mixed type, the diurnal type prevailing. When the moon is close to the equator the tides are semidiurnal, and when the moon has its maximum N or S declination the tides are diurnal. Semidiurnal tides have a smaller range and somewhat higher LW.

The tidal currents here ordinarily have a velocity of 1 to 2 knots. At the head of the gulf the currents may reach a velocity of 3 to 4 knots, the flood current setting W and the ebb current setting E. Overfalls caused by conflicting currents may be observed inside the gulf.

The tidal wave approaches the S coast of Poluostrov Kamchatskiy from the ESE and divides; one branch flows N along the E coast of the peninsula, causing a N flood current, while the other branch flows NW along the SE coast of the peninsula into Kamchatskiy Zaliv, where, upon reaching its N shore, the current changes its direction to the W and flows parallel to the N shore of Kamchatskiy Zaliv. During the ebb, the directions of the tidal currents are reversed. The tidal currents here barely exceed a rate of 1 to 1.5 knots, reaching the higher limit only in the vicinities of capes projecting into the sea. Notwithstanding the relative weakness of these tidal currents, eddies have been observed, especially off Mys Kamchatskiy, and overfalls of conflicting currents, though gradually weakening seaward, extend for a distance of 10 to 15 miles offshore.

The tidal currents off the coasts of Poluostrov Kronotskiy attain a rate of 1.5 to 2 knots and cause eddies and overfalls that extend seaward off the headlands for a considerable distance.

Tidal currents in the vicinity of Mys Shipunskiy attain a rate of 1.5 to 2 knots at springs and 1 knot at neaps. The tidal wave advancing from the ocean divides at Mys Shipunskiy; one branch setting N and the other NW along the coast. The two branches of the ebb currents meet about 10 miles SW of Mys Shipunskiy and form eddies and also a very confused short sea when the wind is fresh.

The tidal current between Mys Zhupanova and Mys Shipunskiy parallel the coast and attain a rate of 1 to 2 knots. The flood current sets N and the ebb current sets S. In the open sea the flood current sets NE and the ebb current sets SW.

Caution.—Abnormal magnetic variation has been observed between 53˚35'N and 55˚10'N. Although the disturbance at Mys Chazhma has been reported to be 9˚30'W of the normal variation, it was found negligible at a distance of 3 miles from the coast, and was not perceptible at a distance greater than 10 miles offshore.

Near the coasts of Poluostrov Kronotskiy the deflection of the compass needle may reach 15˚ to 20˚ at a distance of 1 to 1.5 miles offshore, but is not perceptible at a distance of 5 miles offshore.

The area of abnormal variation, which lies in the greater part of Kronotskiy Zaliv, is appreciable within a distance of 3 miles of the coast, but is not perceptible at a distance greater than 10 miles offshore.

An area of magnetic disturbance, in which a variation of 1˚ less than the normal has been observed, is centered in 55˚30'N, 163˚40'E, extending over a radius of about 10 miles.

Kamchatskiy Zaliv

Kamchatskiy Zaliv, entered S of **Mys Kamchatskiy** (56˚00'N., 163˚03'E.) and N of Mys Kronotskiy, about 80 miles SSW, has generally low shores, and the coastal mountain ranges are at a considerable distance inland.

Sopka Klyuchevskaya (56˚04'N., 160˚38'E.), an active volcano located 93 miles NW of Mys Kamchatskiy, is located in the center of a large group of high mountains, and is the highest mountain in Kamchatka.

For about 5 miles W of Mys Kamchatskiy, mountains with elevations of over 609m are located within 1.5 miles of the coast, and front the sea with steep precipices and bluffs, fringed at their base with a narrow sand and gravel beach that is thickly studded with fragments of rock.

Osyp' Lakhtak, about 13 miles NW of Mys Kamchatskiy, is a very remarkable scar caused by a landslide. It rises from the sea to the top of the shore cliffs at a slope of 30˚, and being yellow in color, stands out very conspicuously against the background of the generally darker color of the coast. From the offing it appears as a large triangular patch with its base resting on the sea.

Anchorage.—Anchorage in the bight close N of Osyp' Lakhtak affords some shelter from SE winds to a small vessel anchored close inshore.

Caution.—In the vicinity of Osyp' Lakhtak, particularly S of it, the depths are extremely irregular. The bottom has numerous very deep holes and crevices close inshore. An anchor, with a full length of chain, was lost near a position where a depth of 9.1m was obtained by the lead; therefore, when anchoring here, back out the anchor until it takes hold and the necessary scope of chain is out.

3.2 Ust-Kamchatsk (56˚13'N., 162˚29'E.) (World Port Index No. 62620) is situated on the right bank of Reka Kamchatka, where it makes a sharp bend before flowing into the sea. The entrance channel to Reka Kamchatka, the largest river in Kamchatka, leads between two broad sandy shoals extending off the extremities of the two spits that form the mouth of the river.

Fish canneries on the N shore of Kamchatskiy Zaliv have conspicuous chimneys and are brilliantly lighted at night. Cannery No. 1 is situated about 2 miles E of Ust'-Kamchatsk. A white light, clearly visible from the offing, is shown from the lookout tower of this cannery. Cannery No. 2 is situated about 7 miles W of Ust'-Kamchatsk. A radiobeacon transmits from Ust'-Kamchatsk.

Tides—Currents.—The MHW interval at the mouth of Reka Kamchatka is about 4 hours. The spring rise is 1.8m, while the neap rise is 0.9m.

Anchorage.—The whole of the low and sandy coast on either side of the mouth of the Reka Kamchatka is steep-to, and except for the shoals at the mouth of the river, is clear of dangers.

Anchorage can be obtained 0.5 to 0.8 mile offshore, either W of the mouth of the river in a depth of 11 to 12.8m, sand, or E of the mouth of the river in a depth of 14.6 to 20.1m, sand. During calm weather, a long swell often sets in without warning, and soon becomes heavy. The surf is particularly heavy abreast the anchorage, and it is not advisable to anchor closer than 0.5 mile offshore. The tidal currents flow parallel to the coast and have a tendency to keep a ship broadside to the swell.

When approaching the anchorage in clear weather, the chimneys of the fish canneries by day and their lights at night are good landmarks. The settlement of Ust'-Kamchatsk and the radio masts ordinarily are visible from about 8 miles. In thick weather a vessel should steer directly for the mouth of Reka Kamchatka, anchor when a depth of 29m is reached, and wait until the vessel's position can be ascertained.

Caution.—Near the canneries, long lines of nets are laid out extending up to 0.5 mile offshore. The outer ends of the nets are marked by small floats.

3.3 Mys Kryugera (56˚01'N., 162˚05'E.) is the E extremity of a small, rounded, and defined peninsula rising to a twin-peaked, hummocky hill, 128m high. The point consists of continuous, reddish-brown cliffs, about 100m high. The cape is fringed with reefs, usually marked by breakers, which extend between 1 mile NE and 1.5 miles SE from the cape.

Bukhta Kryugera (56˚01'N., 162˚03'E.) (World Port Index No. 62610) is entered between Mys Kryugera and a small cape marked with a pillar rock close offshore, about 3.5 miles N of Mys Kryugera. The whole shore of this bay is formed by continuous reddish-brown cliffs, 122 to 152m high, sloping down to a narrow sand and shingle beach that skirts the shore of the bay. In the S corner of the bay, close to Mys Kryugera, there is a large canning factory.

Only the S half of the bay has been surveyed, and the depths here are irregular. The bottom is mostly rocky, with isolated patches of sand and shingle. An isolated pillar rock lies about 1.2 miles NW of Mys Kryugera and about 0.3 mile offshore. The entire water area for 0.6 mile offshore should be regarded as dangerous due to submerged rocks and shoal patches. Outside this distance the depths increase to 18.3 to 20.1m about 2 miles offshore. A 4.5m depth and an obstruction lie 2.5 and 3 miles NE, respectively, of Mys Kryugera.

Tides—Currents.—The tides here are of a mixed type, with the diurnal prevailing. The MHW interval is 3 hours 20 minutes. The spring rise is 1.3m.

Anchorage.—Bukhta Kryugera is sheltered from winds from the S through W to NNE. Furthermore, the reef that extends off Mys Kryugera serves as a breakwater. The anchorage in Bukhta Kryugera, though partly sheltered, is in depths of 13m and is the only sheltered anchorage in Kamchatskiy Zaliv.

Two beacons, in line bearing 190˚, near the canning factory, lead to the anchorage. During the navigation season these aids are marked by small buoys displaying flags.

3.4 Mys Krasnyy (55˚56'N., 162˚01'E.), about 6 miles SSW of Mys Kryugera, is the bluff extremity of a small solitary hill located near the coast, and is about 171m high. This cape is not very conspicuous, but can be identified by its red color with white horizontal bands in the upper strata. A small valley, with a sand beach and small stream at its mouth,

lies immediately N of the cape. Rocks, marked by breakers, lie up to 0.8 mile from the cape. From the rocks, a shoal, with a depth of 9.6m over its outer end, extends 1.3 miles NE. A detached shoal, with a depth of 2.6m, lies 3.2 miles ENE of the cape.

Mys Shuberta, about 14 miles SW of Mys Krasnyy, is a slightly projecting headland consisting of reddish-brown cliffs about 61m high. The low coast S of the cape makes the cape somewhat conspicuous from the offing. A large pyramidal rock lies close off the cape.

3.5 **Mys Chazhma** (55˚03'N., 161˚54'E.), lying about 40 miles S of Mys Shuberta, is a narrow, bare, sandstone tongue, bordered with cliffs. Above-water and drying rocks extend about 0.2 mile off its N and S sides. Gora Primetnaya, about 12 miles NW of Mys Chazhma and 3.5 miles inland, is the highest summit of a range of flat-topped mountains. The range extends about 10 miles NNW of Gora Primetnaya and lies 5 miles from the coast.

Bukhta Chazhma, between Mys Chazhma and a low rounded point 3 miles NW, is bordered on its S shore by reddish cliffs fronted by a narrow gravel beach. A low sandy beach, with the shore rising on either side of it, lies at the mouth of Reka Bol'shaya Chazhma (Reka Chazhma). Above-water and submerged rocks lie off the mouth of the river, and foul ground extends 0.5 mile offshore.

Anchorage.—Anchorage can be obtained in 13.7m, fine sand, with the mouth of Reka Bol'shaya Chazhma bearing 214˚, distant 1 mile, Mys Chazhma bearing 114˚, distant 2 miles, and Gora Primetnaya bearing 304˚.

3.6 The peninsula, about 16 miles SE of Mys Chazhma, ends in two low, bluff points. The N point is formed by the spur of a hill, 213m high, about 1 mile W of the point. The reefs extending off this point are steep-to, with depths of 37m about 0.5 mile off the reefs.

Mys Kamenistyy (54˚50'N., 162˚10'E.), about 1 mile S of the N point, is a small hill, 201m high, with a cone-shaped summit. Close off this point lies a large pillar rock, from which a reef, composed mainly of drying rocks, extends 0.8 mile E and is marked by breakers at its outer end.

Bukhta Kamenistaya, entered S of Mys Kamenistyy, has not been examined, although with the exception of three above-water rocks on its W side close inshore, no dangers have been noted. A line of soundings parallel with the coast 1.5 miles offshore reveals depths gradually decreasing to 22m, sand, abreast the head of the bay. The turbid surface water in this bay, probably due to particles of sand and mud suspended in it, is green in color.

Mys Kronotskiy (54˚44'N., 162˚10'E.) is the E point of a peninsula which, on all sides, slopes steeply to the coast from the top of a mountain, 340m high, located close within the cape. A vessel reported breakers with white vapor or steam ascending from them, close S of the cape. Mys Kronotskiy is conspicuous in profile because the lower third of its slope is a landslide scar which rises from the extremity of the cape at an angle of about 45˚. A rocky ledge, the greater part dry at LW, extends 1.3 miles ESE from the cape. A high and slender pillar rock, about halfway along the ledge, is a good landmark. The outer end of the ledge is marked by breakers, but is steep-to, the depths being 35 to 50m about 0.5 mile off it. Masses of kelp surround the cape and extend a short distance beyond the ledge. It appears as brownish-green patches easily discernible on the surface of the sea.

A light is shown from Mys Kronotskiy. A radiobeacon transmits 1.2 miles WSW of the light.

Poluostrov Kronotskiy

3.7 Poluostrov Kronotskiy, separating Kamchatskiy Zaliv from Kronotskiy Zaliv, is formed by the E and NE spurs of Sopka Kronotskaya, but its S part is an elevated tableland terminating on its seaward side in sheer cliff. A vessel approaching the coast of the peninsula in thick weather should sound continuously and exercise due caution off Poluostrov Kronotskiy, as there are depths of 101 to 128m which decrease rapidly.

Numerous rocks and reefs exist along the coast of the peninsula, but they do not extend offshore beyond 2 miles.

Sopka Kronotskaya, about 56 miles W of Mys Kronotskiy, is an isolated cone-shaped extinct volcano, and serves as a remarkable landmark from considerable distances. It is clearly discernible from the S part of Kamchatskiy Zaliv, from the E of Poluostrov Kronotskiy, and the entire volcano is visible from Kronotskiy Zaliv.

The rocky ledge, about 2.5 miles SW of Mys Kronotskiy, is marked by many pillar rocks. Sivuchiy Kamen, meaning Seal Rock, about halfway along the ledge, is conspicuous due to its size.

Kamen' Kub, about 14 miles SW of Mys Kronotskiy, is a very conspicuous, solitary, rocky islet rising sheerly from the water. From the offing it appears as a cube with its flat top covered with grass. Its almost vertical sides, covered with bird-guano, render it conspicuous from seaward. There are rocks 0.5 mile SSW and 1 mile ESE of the islet.

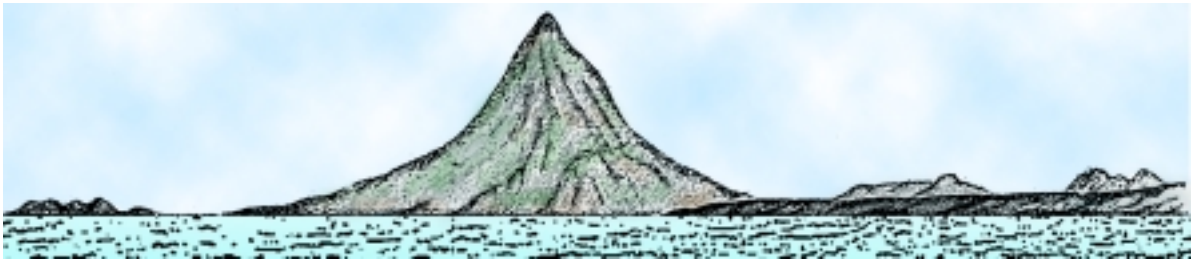
Mys Kozlova (54˚29'N., 161˚43'E.), the SE extremity of Poluostrov Kronotskiy, is 46m high, steep, and sharply defined when sighted from the NE and SW. A reef, which is steep-to and composed of a chain-like formation of rocks and pillar rocks, extends 1 mile S from the cape and terminates in a remarkable pillar rock, inclined seaward, which stands on a high rock base, often almost covered by seals. This 21m pillar rock is known as Kamen' Kozlova.

Kronotskiy Zaliv

3.8 Kronotskiy Zaliv is entered between **Mys Kozlova** (54˚29'N., 161˚43'E.) and Mys Shipunskiy, about 112 miles SW. The shore of the gulf is high in its N and S parts, but between these high sections it is either low or formed by comparatively low cliffs.

Bukhta Morzhovaya, in the S part of the gulf, is the only bay affording completely sheltered anchorage. Kronotskiy Zaliv has not been adequately surveyed and should be navigated with due caution.

Several conspicuous mountains lie comparatively near the coast and form excellent landmarks discernible on a clear day from considerable distances.



Sopka Kronotskaya from SE distant 50 miles

Sopka Karymskaya (Sopka Berezovaya) (54˚03'N., 159˚28'E.), an active volcano, has a rounded summit of brownish-gray color, and is easily identified by the smoke rising from its crater.

Gora Shirokaya (53˚52'N., 159˚33'E.) has a broad slope paralleling the coast.

Sopka Zhupanova (53˚35'N., 159˚09'E.), an isolated active volcano, is particularly conspicuous from the E and NE.

3.9 The coast from Mys Kozlova to Mys Ol'ga, about 14 miles W, fronts the sea with a solid wall of uniform brown cliffs, backed by a gently sloping tableland. Two groups of rocks along this coast form good landmarks. Kamen' Morskoy, a conspicuous pillar rock, 37m high, with a white top showing up clearly against the background of brown cliffs, is the dominant feature of the group of rocks about 5.5 miles W of Mys Kozlova. The other group, about 4 miles E of Mys Ol'ga, includes a high, brown, pillar rock, with a rounded top.

Mys Ol'ga, a small peninsula, 46m high, can be identified by a conspicuous, sharply-pointed conical hill that rises a short distance N of the cape. There are several large pillar rocks close off the cape. A steep-to reef extends 0.5 mile S from the cape.

Mys Ol'ga from W distant 5 miles

Bukhta Storozh (54˚34'N., 161˚10'E.), located about 7 miles NW of Mys Ol'ga, affords no protection from the SE swell that comes in around the E shore of the bay. The E side of the bay is fringed by reefs and rocks, paralleling it about 1 mile off, and marked by a continuous line of breakers.

Temporary anchorage may be obtained in the corner of Bukhta Storozh in 7.8m, sand, 0.8 mile from either shore. When approaching this anchorage, a vessel should favor the N shore of the bay, which is clear of dangers. Care should be taken to avoid a detached 2.6m shoal lying 6.2 miles NW of Mys Ol'ga, about 1.5 miles SSW of the anchorage.

Caution.—Reported observations made in Bukhta Storozh indicated the deflection of the compass needle to be about 5˚.

The coast for 7 miles NE and 16 miles SW of the mouth of the **Reka Kronotskaya** (54˚31'N., 160˚45'E.) is low and sandy. The mouth of the river is difficult to distinguish from the offing. An oval-shaped hill, 229m high, and a fairly conspicuous hill, 311m high, located 7.5 miles and 10.5 miles NNE, respectively, of the mouth of the river, in line bearing 016˚, lead to a position about 1.2 miles E of the mouth of Reka Kronotskaya.

Anchorage.—Anchorage may be obtained in 12.8m, 0.5 mile offshore, with the peak of Sopka Kronotskaya bearing 338˚, and the mouth of Reka Kronotskaya bearing 008˚.

3.10 Reka Semlyachik (54˚06'N., 159˚55'E.), entered 36 miles SW of the mouth of Reka Kronotskaya, flows through a wide valley and reaches the coast as a river of considerable size. Before discharging into the sea the river flows S, being separated from the sea by a narrow sand and gravel spit. The mouth of the river is not easily discernible from the offing, but it can be identified by a low, sandy coast N of it and coastal cliffs immediately S of it. The village of Krasnyy Partizan lies near the mouth and Barmotina village is situated 3 miles N of it.

Mys Zhupanova (53˚40'N., 159˚55'E.) is the NW extremity of a peninsula, the head of which is formed by three hills rising from a single mass of high land extending 0.5 mile SE to Mys Yuzhnyy. The peninsula is connected to the mainland by a low sand and gravel isthmus. The central hill is 55m high, and Mys Yuzhnyy is 100m high. From the offing the peninsula appears as a wedge-shaped islet, with its thin edge toward the land. Having a dark color, this wedge is fairly conspicuous against the lighter background.

A detached rocky shoal, with a least depth of 2.4m, lies 0.7 mile NNW of Mys Zhupanova. The shoal is steep-to with depths of 11m around it.

Anchorage.—Mys Zhupanova Anchorage, the bight W of Mys Zhupanova, has low and sandy shores, covered with pumice in places. Large ships can obtain anchorage in a depth of 10m, mud and sand, with Mys Zhupanova bearing 100˚. The berth is sheltered from the SE through SW to NW. Small vessels can anchor closer inshore in depths of 4m with the cape bearing 080˚. Stranded wrecks lie about 1.2 miles W and 2.5 miles NW of the cape.

The low coast S of Mys Yuzhnyy is fronted offshore by a barrier consisting of detached groups of above-water and submerged rocks extending about 4 miles SSE from Mys Yuzhnyy, and parallel to the coast. The N end of the barrier is an isolated submerged rock about 0.8 mile E of Mys Yuzhnyy and marked by breakers. About 1 mile SE of Mys Yuzhnyy is a

group of six pillar rocks disposed in two small clusters. The next member of the barrier, about 2.5 miles SSE of Mys Yuzhnyy, consists of Skala Ekspeditsii, a round-topped, grass-covered rock, 93m high. A short reef extends NE, and a submerged rock lies about 0.5 mile SE of Skala Ekspeditsii. A pillar rock, 13m high, lies about 0.5 mile S, and a submerged rock, marked by breakers, lies about 2 miles SSE, respectively, of Skala Ekspeditsii.

3.11 Mys Kron'ye (Mys Krone) (53˚28'N., 159˚57'E.) is a rounded rugged headland lying about 12 miles S of Mys Zhupanova. A rocky mountain within its extremity rises to a height of 472m, and sloping steeply, particularly on its S and E sides, fronts the sea with steep, brown cliffs. For 6 miles N of Mys Kron'ye, the mountains rise close to the coast from sheer brown cliffs of moderate height. A reef extends S and SE about 0.6 mile from the headland. The central part of the reef consists of drying rocks, but its outer part is a submerged ledge, which is marked by breakers when the swell is considerable. Its extremity is steep-to. This headland can be identified by a conspicuous pillar rock, 30m high, about 0.1 mile NE of the cape.

Bukhta Kalygir, entered S of Mys Kron'ye, has precipitous grayish-brown cliffs of medium height on its W shore, backed by mountains. Northward of the cliffs is the mouth of a broad valley with Ozero Kalygirskoye, a salt water lake, separated from the bay by a narrow, long, and low sandy spit covered with grass and bushes. The entrance to the lake is at the NE end of the spit near which lies the small village of Kalygir.

Mys Sredniy (53˚23'N., 159˚56'E.), the S entrance point of Bukhta Kalygir, lies 5.5 miles S of Mys Kron'ye and is a high, rugged headland with precipitous gray cliffs. It is fringed with above-water rocks close inshore. An isolated submerged rock, marked by breakers, lies 0.3 mile N of the headland. A conspicuous detached pillar rock lies 0.1 mile N of the rocky point, about 1 mile NW of Mys Sredniy.

The NW part of Bukhta Kalygir, where the depths 0.2 mile offshore do not exceed 12.8m, is the most shallow. The depths increase S and E toward Mys Kron'ye, the bottom being sand.

It is reported that there is anchorage in 11.9m, sand and shell, about 0.3 mile off the middle part of the cliffy shore W of Mys Kron'ye, and also farther W, 0.3 mile off the cliffs nearest to the low-lying shore in 7m. The anchorage should be approached from the SE with caution, taking soundings continually.

Bukhta Bol'shaya Medvezhka is entered between Mys Sredniy and Mys Argali, 3 miles further SE. The SW part of its shore is a spit ridged with accumulations of sand and gravel and backed by a lake which lies in a spacious valley. Except for this low section the shore of the bay is hilly and covered with forest. A group of above-water rocks, extending no more than 0.2 mile offshore, is located about 1.5 miles S of Mys Sredniy. The depths in the entrance are 27 to 37m.

Anchorage.—Anchorage, sheltered from SE to S through NW winds, can be obtained in depths of about 21m with Mys Argali, the S entrance point, bearing 110˚.

3.12 Mys Argali (53˚20'N., 159˚58'E.) is the N point of a small mountainous peninsula that forms the SE shore of Bukhta Bol'shaya Medvezhka. The coast on the seaward side of the peninsula consists of high, rocky, gray cliffs, rising over 440m. About 1.3 miles SSE of Mys Argali, a rock, 2.4m high, lies 0.2 mile offshore.

Bukhta Morzhovaya (53˚16'N., 159˚58'E.) is entered between Mys Argali and Ostrov Morzhovyy, about 4.5 miles SSE. The island rises to a height of 192m and has grayish cliffs, which on its S side are higher and steeper, and which descend to the NE end of the island in a series of gently sloping terraces. On its seaward side the island is steep-to, with depths of 56m about 0.2 mile off this side of the island. Ostrov Morzhovyy is separated by a narrow obstructed passage from a point on the mainland which rises to a flat-topped, steep-sided hill, 125m high.

Bukhta Morzhovaya is divided into two parts by a rocky headland, nearly 91m high, about 3.5 miles WSW of Ostrov Morzhovyy. The N part is wide and exposed. The S part, a comparatively long and narrow arm with a sand and shingle beach at its head, is completely sheltered from the winds and sea. The shores of the entire bay are formed by steep slopes of mountains that surround the bay and rise to heights ranging from 457 to over 610m.

The depths at the entrance to the bay are 55m, sand, decreasing to 11m, sand, about 0.6 mile off the head of the N part of the bay. Depths of 27.5 to 29.5m, sticky mud, prevail over the N half of the S arm, decreasing very gradually to 18.3m, about 0.3 mile offshore at its head.

Anchorage.—Anchorage, sheltered from winds and sea, is obtained in 18 to 21.9m near the head of the S arm of Bukhta Morzhovaya. Sticky mud provides excellent holding ground.

Caution.—During thick or foggy weather, which is very frequent in summer, it is most difficult to make out the entrance to Bukhta Morzhovaya in a calm or with gentle onshore breezes. With moderate SE or NE winds the fog may clear up periodically on the lee side of the land. Therefore, with a SE wind a vessel should steer toward Ostrov Morzhovyy, and with a NE wind, Mys Argali. A mid-channel course in the bay and in the S arm of the bay is recommended. In clear weather, the entrance is easily identified by Ostrov Morzhovyy. Ordinarily a SE wind spreads a fog over the whole N part of the bay, but leaves the S part fairly clear. With NE winds accompanied by rain, fog spreads over the entire bay, the fog being much denser around the mountain tops and considerably thinner closer to the shoreline.

3.13 Mys Shteyna (53˚09'N., 160˚04'E.), a high, cliffy point 8 miles S of Ostrov Morzhovyy, is the N limit of an elevated plateau. This plateau, extending about 3 miles S, forms the SE extremity of Poluostrov Shipunskiy. The extremity of the peninsula is 269m high, and flat-topped with high, sheer, brown cliffs.

Mys Shipunskiy (53˚06'N., 160˚02'E.) is the E of two small projections on the SE extremity of the above-mentioned plateau. A mountain, about 5 miles NW of Mys Shipunskiy, has a sharp, jagged summit rising to a height of 981m, and makes a conspicuous landmark when sighted from either the E or W.

A palisade-like formation of pillar rocks extends 0.8 mile ESE from Mys Shipunskiy and terminates in a large pillar

rock, about 13m high, which is in line with the rest of the rocks, but is separated by about 90m from the rest of the row. A dangerous line of rocks, both above-water and submerged, extends from the W projection in a SSW direction for about 1.3 miles to a submerged rock marked by breakers. Then it changes its direction and extends ESE for about 0.8 mile, terminating in a rock-islet, 3.7m high, located about 1.3 miles SSW of Mys Shipunskiy. This rock-islet is the outermost danger off Mys Shipunskiy. Both these lines of rocks are visible 10 to 12 miles in clear weather, and form a good landmark. These rocks are practically steep-to, with depths of 50 to 55m less than 0.5 mile S of the outermost rock-islet and depths of 91m at a distance of 0.8 mile E of the E rock.

A light with a transmitting radiobeacon is situated on Mys Shipunskiy.

Caution.—Very dense fogs are prevalent in the vicinity of Mys Shipunskiy. A vessel approaching Mys Shipunskiy in thick weather should sound continuously and should navigate in depths of not less than 110m. With smooth water on an ebb tide the eddies will give a warning of a proximity to the cape. The bottom shelves more steeply off the E side than off the S, and particularly the SW side of the cape. The bottom is mainly shingle, changing to sand N of the cape, and to rock as the cape is approached.

Depths of less than 50m have been reported to lie in an area about 6 miles E of Mys Shipunskiy.

Mys Shipunskiy to Avachinskaya Guba

3.14 Sopka Kozelskaya (53˚13'N., 158˚53'E.), an extinct volcano, conical, and sloping gently to the coast is an excellent landmark only 10 miles inland. The white stripes of snow on its black slopes can be seen through the haze when the peaks are obscured.

Sopka Avachinskaya, an active volcano, lies about 2.5 miles NW and forms one mountainous mass with Sopka Kozelskaya, the valley between being of no great depth. There is never any snow near its summit due to internal heat.

Sopka Koryakskaya, an extinct volcano, 6 miles NW of Sopka Avachinskaya, has a well-shaped conical summit making it a very conspicuous landmark particularly from Avachinskaya Guba.

The coast between Mys Shipunskiy and Mys Vkhodnoy, 12 miles SE, is elevated and bluff, and indented in places by small sandy bays between rocky headlands.

Bukhta Bechevinskaya (53˚13'N., 159˚45'E.) is entered between Mys Vkhodnoy and Mys Lovushek, about 1.3 miles farther NW. About 2 miles within the entrance of the bay a shingle spit extends from either side toward its middle, dividing the bay into nearly two equal parts. Depths in the bay decrease from 12m on the N side of the entrance to 2.1m in the fairway of the channel between the spits, which is less than 90m wide. The depths increase again to over 50m in the inner part of the bay.

The S side of **Mys Lovushek** (53˚13'N., 159˚43'E.) terminates in two small projections. It is fringed with rocks and reefs extending about 0.3 mile S and SW. Grayish-yellow cliffs immediately NW of Mys Lovushek, changing to brown cliffs farther NW, form an excellent landmark, as there is no other place in the vicinity with similar coloring. The bay should not be approached from the SW.

Tides—Currents.—The MHW interval in Bukhta Bechevinskaya is 3 hours 6 minutes. Springs rise 1.4m, while neaps rise 1.2m. The tidal currents in the bay are almost imperceptible, except in the passage between the spits where, with the spring tides, the currents attain a velocity of 6 to 7 knots.

Anchorage.—Anchorage, protected from all directions except SW, can be taken in the SW half of Bukhta Bechevinskaya, with local knowledge, in depths of 5 to 11m, sand. A good position is in 9.6m, sand, with the two projections of Mys Lovushek in line bearing 256˚, and the SE entrance point bearing 175˚.

3.15 Ostrov Krasheninnikova (53˚13'N., 159˚33'E.), a precipitous island lying 6 miles W of Mys Lovushek, is fringed by rocks and a detached above-water rock lies 0.5 mile SSW of it. The mouth of Reka Vakhil', about 3.5 miles NE of the S end of Ostrov Krasheninnikova, was marked by a fishing station nearby. A rock, which dries and only breaks when there is at least a moderate swell, lies about 1.5 miles SSW of the mouth of Reka Vakhil'.

Anchorage.—Anchorage can be obtained by vessels with local knowledge in a depth of 21.9m, fine sand and shells, about 2.7 miles E of the N extremity of Ostrov Krasheninnikova and 0.5 mile E of the previously described drying rock.

The anchorage should be approached from the S with a low oval-shaped hill 0.5 mile E of the mouth of Reka Vakhil' bearing 020˚, which leads to the anchorage. Anchor when the N extremity of Ostrov Krasheninnikova bears 270˚ or Mys Lovushek bears 098˚.

Mys Nalycheva (53˚09'N., 159˚24'E.), lying about 7 miles SW of Ostrov Krasheninnikova, is a high and cliffy cape with dark-colored precipices. A mountain with a rounded summit rising to a height of 593m is located close inland, sloping gradually on its N side. Mys Nalycheva, when seen from the SE, is conspicuous against the background of a yellowish low coast. From the SW, because of the lake lying W of it, the cape appears as an island. A rocky reef extends about 0.3 mile S of the cape.

3.16 From Mys Nalycheva to the mouth of **Reka Khalaktyrka** (Reka Kalakhtyrka) (52˚58'N., 158˚50'E.) the coast is uniformly low and sandy. It is steep-to and clear of dangers. Reka Polovinnaya enters the sea 8.2 miles NE of Reka Khalaktyrka. Along this stretch the muddy water from the mouth of **Reka Mutnaya** (53˚04'N., 159˚00'E.) gives a dull yellow color to the sea for several miles seaward. Abreast the mouth of Reka Khalaktyrka and about 0.8 mile offshore lies a rock-islet, which being covered with guano, has a white color. A reef, on which the sea breaks and on which is an above-water rock, lies between the islet and the coast.

The coast between Reka Khalaktyrka and Mys Vertikal'nyy, about 5 miles SW, is high, cliffy, and fronted by foul ground extending about 1 mile offshore. A detached 4.5m patch lies 2 miles ENE of Mys Vertikal'nyy and 1.2 miles offshore.

Ostrov Toporkov (52˚55'N., 158˚47'E.), lying 2.2 miles NE of Mys Vertikal'nyy and about 0.3 mile offshore, is 51m high and of dark color.

3.17 Mys Mayachnyy (52˚53'N., 158˚42'E.), about 1.2 miles SW of Mys Vertikal'nyy, has steep, precipitous sides, about 151m high, and is fringed on its W side by a drying reef.

A broad reef extends 1.5 miles ESE from Mys Mayachnyy. The sea breaks on this reef with the slightest swell. Being steep-to, this reef is dangerous in thick weather. A light with a transmitting radiobeacon is exhibited on the point.

Kamni Tri Brata (Three Brothers), about 0.8 mile NW of Mys Mayachnyy, is a group of three very conspicuous basaltic pillar rocks on the coastal reef extending about 0.4 mile offshore.

Caution.—Several regulated areas, best seen on the chart, lie off the coast between Mys Shipunskiy and Avachinskaya Guba.

Avachinskaya Guba (Petropavlovsk)

3.18 Avachinskaya Guba, entered between Mys Mayachnyy and Mys Bezymyannyy, about 3.5 miles SW, is easy to access on a clear day and affords sheltered anchorage for a large number of vessels. The entrance is difficult to distinguish when bearing less than 304˚, as the cliffs on both sides have the appearance of a continuous line. The bay also includes Petropavlovskaya Gavan', on the E side of the harbor, Bukhta Rakovaya, S of Petropavlovskaya Gavan', and Bukhta Tar'ya, in the SW part of the bay.

Petropavlovsk (53˚01'N., 158˚39'E.) (World Port Index No. 62600) is the principal port of Kamchatka and the site of a naval base. This port is not in use for foreign vessels.

Winds—Weather.—From May through August S winds prevail. From September through April NW winds are prevalent and are of a force not less than Beaufort Scale 3. They are steady and produce considerable sea in Avachinskaya Guba. The strongest winds are usually from October to April.

There is a certain regularity on clear summer days in the shifting of the wind. Calms, or very gentle land breezes from N to NW, are prevalent in the morning. Between 0900 and 1100 in the morning the wind begins to shift gradually W to S and becomes calm about 1400, but later in the afternoon it is superseded by a light to moderate sea breeze from the SE quadrant.

January and February are the coldest months of the year and have an average daily minimum temperature of -12˚C. The warmest part of the year is a period of approximately 3 weeks, ending around August 10. The mean daily maximum temperature in August is 17˚C.

Fog in Avachinskaya Guba is uncommon. Frequently during the summer the peaks of mountains that surround the bay are enveloped by fog, but Avachinskaya Guba remains clear. With E winds the fog from the sea rolls occasionally into Avachinskaya Guba. With W winds fog may cover the peaks of the W shore of the bay and spreads gradually over the entrance. Fog is observed most frequently from June through August.

Ice.—Only in especially severe winters is the whole of Avachinskaya Guba covered with ice. Usually only the small inlets are frozen. Zaliv Izmennyy, in the NE part of the entrance, does not freeze completely, but drift ice enters it.

Petropavlovskaya Gavan' is icebound from the end of November or mid-December until the beginning of May. The harbor can easily be kept open, and icebreakers work in the severe months. The earliest recorded first appearance of ice was November 20, the latest was January 7. The earliest final disappearance of ice was March 10, the latest was May 9.

The navigation of vessels may be seriously impeded during the winter and spring in the open sea off Mys Mayachnyy, but icebreakers can generally keep a passage open.

Tides—Currents.—The tidal currents in the entrance to Avachinskaya Guba have a velocity of 1.5 to 2 knots at springs, the flood setting NNW and the ebb setting in the opposite direction, both causing tide rips. The tidal currents in Petropavlovskaya Gavan' are weak, setting N along the E shore of the outer harbor and dying away towards the inner harbor.

Depths—Limitations.—A depth of 12m in the entrance to the bay limits the size of vessel that can enter.

Depths of 20 to 24m prevail in the central part of Avachinskaya Guba. The shores of the bay, with the exception of the shallow area S of Banka Z and the NW shore of the bay, are fairly steep-to, having depths of 7.3m close inshore.

Banka Z, with a least depth of 3.5m, lies about 2 miles NW of Mys Uglovoy and lies on a bank with depths of less than 5.5m extending W and NW of Mys Uglovoy.

The outer harbor of Petropavlovskaya Gavan', E of Poluostrov Signal'nyy, has depths of 9 to 16.5m. The main wharf, on the E side of the outer harbor, has a berthing length of 465m and a depth of 9.1m alongside. A quay for the use of naval vessels, about 152m long, is situated close S of the main wharf and has a depth of 3.7m alongside. A wharf, constructed on the spit which separates the outer and inner harbors, has a berthing length of 480m, with depths of 4.6 to 9.1m alongside.

Bukhta Rakovaya has general depths of 16.5m. Bukhta Tar'ya has depths of 22m in the entrance, decreasing to 18.3m near its head.

Aspect.—Mys Bezymyannyy (52˚51'N., 158˚39'E.) has reddish-brown precipitous sides about 200m high. The headland is identified by a sharp-peaked pillar rock, inclined toward the shore and conspicuous from the N or S.

Mys Sredniy, about 1.8 miles farther N, is a precipitous red point terminating in a conspicuous, sharp-pointed pyramid, 129m high. Two conical rocks lie 0.3 mile E of the point.

Stanitskogo Mel' (52˚53'N., 158˚39'E.) are two drying rocks marked by breakers at HW, about 0.5 mile S of Mys Stanitskogo.

Babushkin Kamen', about 0.4 mile SE of Mys Uglovoy, is a conspicuous rock islet, 63m high, and has the appearance of a tall black cap.

Mys Pinnekl'poynt, about 2 miles NNW of Mys Myachnyy, is very conspicuous and can be identified by a high pinnacle rock close off its extremity. Shallow water extends 0.3 mile W from the point.

Ostrov Izmennyy, about 1.5 miles farther NNW, is a rocky islet, 9m high, lying on the steep-to S end of a reef.

Rakovaya Mel' (52˚58'N., 158˚38'E.), with a least depth of less than 1.8m and marked by spar buoys, is steep-to on all sides and dangerous in thick weather.

Pilotage.—Pilotage is compulsory. Before proceeding through the danger zone in the approach to Avachinskaya Guba, vessels pick up a pilot at **Bukhta Akhomten** (52˚27'N., 158˚31'E.).

Anchorage.—Avachinskaya Guba is sheltered by hills around the bay, and by higher hills and mountains inland. Anchorage is prohibited in an area SW of Poluostrov Izmennyy, extending across the entrance.

Bukhta Bezymyannaya, entered N of Mys Bezymyannyy, offers anchorage sheltered from S and SE swell in the SW part of the bay in depths of 11 to 20m. The depths of 18.3m at the entrance gradually decrease to about 9.1m near the middle of the bay. The W half of the bay has depths of less than 9.1m.

In the approach to Petropavlovskaya Gavan', anchorage can be obtained about 0.4 mile S of Mys Signal'nyy in 18 to 20m, mud.

Bukhta Rakovaya is sheltered from all winds and affords excellent anchorage in depths of 20m or less. The bottom is mostly mud, but is sand in depths of less than 9.1m.

Bukhta Tar'ya, entered between **Mys Kazak** (52˚58'N., 158˚28'E.) and Mys Artishok, about 2 miles S, offers excellent anchorage sheltered from all winds in depths of 11 to 22m, mostly mud and sand, and except for the spit extending SW of Ostrov Khlebalkin, is clear of dangers. The bay has depths of 22m in the entrance decreasing to 18.3m, mostly mud and sand, near its head. Anchorage is prohibited in the entrance to Bukhta Tar'ya.

Caution.—Due to insufficient information concerning the relocation and maintenance, many navigational aids within Avachskaya Guba and the approaches are not shown on the chart.

Avachinskaya Guba to Mys Lopatka

3.19 **Ostrov Starichkov** (52˚47'N., 158˚37'E.), about 4.5 miles SSW of Mys Bezymyannyy, is fringed by above and below-water rocks, and has cliffy shores which rise in its SW part. Kekur Chasovoy, a conspicuous, slender, pillar rock, slightly inclined toward the land, lies less than 0.3 mile NNW of the island. Kekur Karaul'nyy, a high pyramid-shaped pillar rock, also conspicuous, lies close off the N end of the island. A sunken rock is reported to lie 0.5 mile E of the island, while a 2.7m patch lies 1 mile N of the island.

Vulcan Vilyuchik (Sopka Vilyuchinskaya) (52˚42'N., 158˚17'E.), a conspicuous, conical, extinct volcano is an excellent landmark, distinctly visible on a clear day long before the land comes into sight. Sopka Mutnovskaya (Sopka Povorotnaya), about 15 miles farther S, constantly emits steam and smoke from a crater on its N side, which is not visible from seaward.

Mys Opasnyy (52˚41'N., 158˚36'E.), formed by moderately high cliffs, predominantly red, has reefs extending about 0.6 mile seaward from it.

Bukhta Sarannaya, entered N of Mys Opasnyy, has high and cliffy N and S shores. The W shore of the bay is a low sandy beach, except for a high bluff near the middle. Depths in the bay decrease from 37m in the entrance to 11m about 0.5 mile from the W shore, which together with the N shore, is fringed by rocks.

3.20 Bukhta Zhirovaya is entered S of **Mys Otvesnyy** (52˚37'N., 158˚33'E.), a promontory formed by high, precipitous gray cliffs. Mys Otvesnyy is steep-to and clear of dangers. Bukhta Zhirovaya is divided into two arms by a slender rocky spit extending from the W side of the bay in an ESE direction and terminating in Mys Razdel'nyy. The NW arm is Bukhta Vilyuchinskaya and the SW arm is Bukhta Zhirovaya.

Bukhta Vilyuchinskaya is entered between Mys Razdel'nyy and a small promontory about 1.2 miles ENE, which is identified by a group of four pillar rocks located 0.3 mile S of its extremity. The NE shore of the bay is backed by a continuous mountain range over 610m high. The SW shore of the bay is backed by high land, being about 142m high in the vicinity of Mys Razdel'nyy, and rising to about 758m abreast the head of the bay.

Tides—Currents.—The MHW interval in Bukhta Vilyuchinskaya is approximately 4 hours. The spring tides are diurnal with a rise of 1.8m. The neap tides are semidiurnal, with a noticeable diurnal inequality and rises from 0.6 to 1.2m.

Anchorage.—Bukhta Vilyuchinskaya affords good anchorage to vessels with local knowledge in depths of 7 to 22m. Depths of 22m, sand, just outside the entrance of the bay decrease sharply to 15m, sand, immediately inside the entrance, then decrease gradually to about 7.3m, sand, near the middle of the bay. Depths increase again to 14.6 to 18m in the inner half of the bay.

Bukhta Yuzhnaya Zhirovaya is entered between Mys Razdel'nyy and **Mys Krutoy** (52˚34'N., 158˚31'E.), a rounded cape formed by gray cliffs rising sheerly from the sea and backed by coastal elevations of 610m close inland. The cape is steep-to and clear of dangers.

Anchorage.—Anchorage can be taken in depths of 14.6 to 16.5m, about 0.8 mile off the low sandy shore at the head of Bukhta Yuzhnaya Zhirovaya, but it is open E.

3.21 **Bukhta Akhomten** (52˚26'N., 158˚30'E.) is protected by mountains over 610m rising close inland on its N and S sides. The shores are steep-to, and with a few exceptions depths of 10m are found about 0.1 mile offshore. Depths of 22 to 29m, mostly sand, or sand and mud, prevail throughout the greater part of Bukhta Akhomten. The head is marshy and low.

Pilotage.—Vessels must pick up a pilot at Bukhta Akhomten before proceeding through the danger area in the approach to Avachinskaya Guba. A small Coast Guard station is at Bukhta Akhomten.

Anchorage.—Anchorage can be taken in depths of 16m, sand, good holding ground, about 0.8 mile from the head of Bukhta Akhomten, sheltered from all but E and NW winds, which cause a heavy swell. In the spring, when NE winds prevail, the bay may be obstructed by ice, but is said to be never closed for more than 3 to 5 days at a time.

Bukhta Tikhirka, immediately N of Bukhta Akhomten, has cliffy N and S shores. The W shore is low sandy beach backed by low land. There are depths of 18.3 to 22m in the entrance, decreasing uniformly toward the head. The depth is about 11m in the middle part.

Winds—Weather.—Frequently in calms, and particularly so with gentle NE winds, Bukhta Tikhirka is filled with a very dense fog.

Anchorage.—Anchorage can be taken by small vessels in 5 to 7m, sand, from 0.1 to 0.15 mile from the head of the bay. The bay is clear of dangers, but exposed to sea and swell.

3.22 Mys Piramidnyy (52˚23'N., 158˚35'E.) is a precipitous cape identified by a conspicuous pyramid-shaped rock lying close to the shore. Close seaward of this rock is a small sharp-pointed rock surrounded by some scattered rocks. Mys Povorotnyy, about 3.5 miles farther S, is prominent from the S, rising to a height of 870m.

Mys Polosatyy lies about 4 miles farther SSW and is very high, and composed of brown cliffs marked with white oblique stripes. The E side of the point is steep-to.

From Mys Polosatyy to Bukhta Mutnaya, 4.5 miles SW, the color of the bluffs is chiefly gray, with occasional brown and red patches. The shores of Bukhta Berezovaya, which indents this part of the coast, consist of sand and gravel. Between Bukhta Mutnaya and Mys Asacha, 4 miles SSW, the coast is rocky and rises to elevations over 600m.

Kamen' Sivuchiy (52˚11'N., 158˚26'E.) is a barren, rocky islet, about 24m high, lying close offshore.

The S shore of Bukhta Mutnaya is bluff and slopes down to the mouth of Reka Mutnaya, which flows through a broad, low valley into the head of the bay. The coast rises sharply N of the mouth of the river.

Mys Asacha (52˚08'N., 158˚23'E.) lies 8.5 miles SSW of Mys Polosatyy. Mys Asacha is high and rocky, with reddish-brown cliffs. A reef extends 0.8 mile SSE from it.

Bukhta Asacha is entered between Mys Asacha and Mys Siama (Mys Kruglyy), about 4 miles SSW. Mys Asacha, high, rocky, and composed of reddish-brown cliffs, has a reef extending 0.8 mile SSE from it.

Mys Siama is fringed by above and below-water rocks, and a reef extends about 1 mile E of the point. A pillar rock, 14m high, lies on this reef about 0.6 mile offshore. A light is shown and a radiobeacon transmits from Mys Siama.

The NE and SW shores of Bukhta Asacha are cliffy, but the NW shore is a sandy beach backed by gentle slopes of hillocks covered with trees and bushes. The depths decrease very gradually toward the head of the bay and are about 14.6m at a distance of 1 mile off the NW shore of the bay. A detached drying rock, ordinarily marked by breakers, lies about 0.8 mile E of the mouth of Reka Asacha, which discharges into the head of the bay. This bay affords in its N recess some shelter from NE winds.

Mys Piratkov (51˚58'N., 158˚17'E.) is a roundish cape formed by precipitous high cliffs with numerous brooks flowing through its steep, narrow fissures. The vertical cliffs are bare, but on those that slope there is a low growth of vegetation. A detached rock, which dries, lies about 0.8 mile NE of the cape.

Sopka Khodutka (52˚02'N., 157˚43'E.), a cone-shaped volcano 23 miles W of Mys Siama, is very conspicuous from seaward.

3.23 Mys Krestovvy (51˚49'N., 158˚06'E.), 12 miles SW of Mys Piratkov, terminates in a sharp hill, which being partly red and partly white, is prominent and a good landmark.

Bukhta Khodutka is an open roadstead lying between Mys Krestovvy and Mys Kuzachin, about 6.5 miles SW. The greater part of its shore consists of low, sandy beach. The mouth of Reka Bol'shaya Khodhutka is at the N end of the beach and close N of its mouth are two conspicuous black rocks. An area marked by breakers has been observed about 1.5 miles ESE of the mouth of the river.

Mys Kuzachin (51˚43'N., 158˚00'E.), 7 miles SW of Mys Krestovyy, is 306m high and rises to a tableland. It is marked by a small valley with a sandy beach nearby. About 1.5 miles SSW of the cape and close offshore lies a pinnacle rock, 27m high.

Mys Khodzhelayka (51˚38'N., 157˚55'E.), 6.5 miles SW of Mys Kuzachin, has a reef extending about 0.8 mile S from it.

Mys Zheltyy (51˚33'N., 157˚46'E.), located 7 miles SW of Mys Khodzhelayka, is so named because of the yellow color of its bluffs, which rise to a height of 207m. A detached reef, which uncovers 2m, lies about 0.8 mile SSE of the cape. Foul ground and drying rocks extend about 0.6 mile S of the point located 1 mile WSW of Mys Zheltyy.

Ostrov Utashud, about 4 miles SW of Mys Zheltyy, consists of three pointed rocky elevations, the SW elevation being 214m high. The island forms an excellent landmark, the dark color of the rocks and bluffs on its seaward side standing out against the background of the coast. The island has the appearance of three islets from a distance. A submerged reef, identified by thickly growing kelp, extends about 0.5 mile NW from the N extremity of the island.

3.24 Bukhta Vestnik (51˚26'N., 157˚36'E.) is a wide and exposed roadstead between Mys Zheltyy and Mys Inkanyush, about 16 miles SW. The entire shore of this roadstead, except for a short distance near its S end, is a long continuous sandy beach backed by low land. The shore is clear of dangers and comparatively steep-to.

Tides—Currents.—The MHW interval in Bukhta Vestnik is 3 hours 19 minutes. The spring rise is about 1.5m and the neap rise is about 1.2m.

Aspect.—Sopka Zheltovskaya (51˚34'N., 157˚19'E.) is a very conspicuous volcano in clear weather, and can be identified by its summit consisting of three peaks. It lies about 17 miles W of Mys Zheltyy.

Sopka Il'inskaya, a conspicuous volcano about 7 miles SW of Sopka Zheltovskaya, is a well-shaped cone, marked by a broken crater at its summit.

Anchorage.—Vessels can anchor 0.2 to 0.3 mile off the W shore of Ostrov Utashud in depths of about 13m, with shelter from the SSE through E to NE. The reef extending from the N end of the island renders effective protection from a NE swell.

Bukhta Vestnik, in the area NE of Ostrov Utashud, offers no protection from E or S winds and NE winds cause a swell, but with winds from between the N and W it is a quiet anchorage. There are general depths of 13 to 25m in this area, shoaling gradually shoreward.

Anchorage can be taken with local knowledge in 14.6m, sand, about 0.7 mile WSW of the point which lies about 1 mile

WSW of Mys Zheltyy. Foul ground extends up to 0.4 mile off the shore NW of the above-mentioned point. A rock, which uncovers, lies about 1 mile W of the point and 0.4 mile offshore.

3.25 Sopka Kambal'naya (51˚18'N., 156˚53'E.), the southernmost of the volcanoes of Kamchatka, lies 22 miles WSW of Mys Inkanyush. It has a steep slope near the summit and a gentle slope nearer its foot. On a clear day this volcano makes a good landmark from seaward. Sopka Shirokaya, another volcano, rises about 6 miles WNW of Sopka Kambal'naya.

Kamen' Gavryushkin (51˚14'N., 157˚18'E.), 9.5 miles SW of Mys Inkanyush, is a conspicuous dark rock, 15m high. Its dark color in contrast to the lighter shades of the coast, and a deep fissure in the rock visible from seaward make it an excellent landmark. An above-water rock and several submerged rocks lie midway between Kamen' Gavryushkin and the coast.

Mys Trekhpolosnyy, about 3.5 miles SW of Kamen' Gavryushkin, is composed of brown, rocky bluffs marked with three oblique white stripes. A reef, which dries, lies about 2 miles E of Mys Trekhpolosnyy.

Mys Tri Sestry (51˚07'N., 157˚03'E.), 8.5 miles SW of Mys Trekhpolosnyy, is the SE extremity of a rather precipitous headland. Kamni Tri Sestry, close off Mys Tri Sestry, consists of a group of three rocks, one of which dries, and over two of which the sea breaks. Bukhta Tri Sestry, a sandy cove entered between two cliffy points immediately W of Kamni Tri Sestry, can be identified by two bare patches in the form of a "W."

The coast from Mys Tri Sestry to a small brown rocky islet 7 miles SW consists of yellowish-gray, moderately high cliffs, which alternate in places with short stretches of sandy beaches, where rivulets discharge into the sea. The brown rocky islet stands out against the grayish-brown color of the coast, and is a good landmark when approaching the coast in thick weather, as are two rocky islets about 4.5 miles farther SW.

Mys Lopatka (50˚52'N., 156˚40'E.), the S point of Kamchatka, is the extremity of a tongue of sandhills, 46 to 61m high, and about 10 miles long. A narrow sand and shingle beach fringes the cape. Reefs, covered with seaweed, extend 0.5 mile S and 1 mile E of the cape. The cape should be passed at least 2 miles S, at which distance a vessel will be clear of the seaweed. A light is shown from the point.

Return to paragraph 5.2

Rif Lopatka, with depths of less than 11m and a least depth of 1.8m, extends 9 miles NW from a position 1.5 miles W of Mys Lopatka.

Return to paragraph 4.1

Pervyy Kuril'skiy Proliv (Kuril Strait)

3.26 Pervyy Kuril'skiy Proliv (50˚50'N., 156˚35'E.) separates Mys Lopatka, the S extremity of Kamchatka from Ostrov Shumshu, the NE island of the Kuril Islands. The strait, known to the Japanese as Shimushu Kaikyo, has a width in its narrowest part of about 6 miles. The navigable channel, about 3 miles wide between the 10m curves, extends in a NNW-SSE direction between Rif Lopatka and Ostrov Shumshu.

Winds—Weather.—The strait is reported to be often partly or completely foggy.

Ice.—The strait is open to navigation throughout the year. Drift ice may be encountered from January to May, particularly in March and April.

Tides—Currents.—In Pervyy Kuril'skiy Proliv the flood current sets NNW and the ebb in an opposite direction. A velocity of 4 knots may be experienced at neaps. Tide rips occur all over the strait, particularly off the points and along the reefs, and patches of broken water are frequently caused by the action of winds and currents.

Caution.—Navigation of Pervyy Kuril'skiy Proliv presents no difficulties, day or night, in clear weather. In case of poor visibility, which is frequent, vessels should use caution and sound continuously.

Approaching from the E, a slight drift S should be expected. The coast should be approached cautiously until the vessel's position has been determined, then Mys Lopatka should be rounded at a distance of about 2 miles. The fog is usually less dense in the vicinity of the cape. With poor visibility, the brown rocky islet about 12 miles NE of the cape stands out against the grayish-brown color of the coast and is a good landmark, as are the two rocky islets about 4.5 miles SW of the islet.

Approaching from the W, in thick weather, a vessel's position should be accurately determined. If the land cannot be identified, the NW coast of Ostrov Shumshu should be approached, off which anchorage can be obtained.

The recommended course through the strait is NNW at a distance of 3.5 miles off Mys Lopatka.

The channel between Rif Lopatka and Mys Lopatka should not be attempted.

The recommended route through the Kuril Islands is via Chetvertyy Kuril'skiy Proliv (Onekotan Kaikyo) (See Sector 4.).

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